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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,961	10/25/2005	Olivier Carli	STX-002	4903
36822 7590 10/02/2009 GORDON & JACOBSON, P.C. 60 LONG RIDGE ROAD SUITE 407 STAMFORD, CT 06902				
EXAMINER WOODALL, NICHOLAS W				
ART UNIT 3775		PAPER NUMBER		
MAIL DATE 10/02/2009		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/520,961

**Applicant(s)**

CARLI, OLIVIER

**Examiner**

Nicholas Woodall

**Art Unit**

3775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 4-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

1. This action is in response to applicant's amendment received on June 12<sup>th</sup>, 2009.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 4, 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Mullane (U.S. Patent 5,628,740).

Mullane discloses a device comprising a bone anchoring element (12) provided with a head (28) that includes a threaded clamping means (24), a threaded shaft (20) received within the head of the bone anchoring element, wherein the bone anchoring element and the threaded shaft include a spherical articulation between them, and a rotational linkage means (elements 34 and the complementary grooves in the clamping means) between the bone anchoring element and the threaded shaft, wherein the rotational linkage means includes a female geometrical form having a non-circular transverse cross-section on the threaded shaft and a male geometrical form having a non-circular cross-section on the bone anchoring element that allow multiple orientations between the threaded shaft and the bone anchoring element and rotationally locks the elements relative to each other. The female form have a non-circular cross-section as shown in Figure 4 of the reference and the male form has a rectangular cross-section along its length and the forms allow for the threaded shaft to

be oriented relative to the anchor while preventing relative rotation between the elements. The rotational linkage means are provided separately of the spherical articulation as clearly shown in the Figures of the reference. Mullane further discloses the device wherein the head of the bone anchoring element may form a grip nut for a tool (see Figure 6 of the reference).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, and 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bernhardt (U.S. Patent 5,591,166) in view of Altarac (U.S. Publication 2003/0163133).

Bernhardt discloses a device comprising a bone anchoring element (20) and a threaded shaft (22). The bone anchoring element is providing with a head that receives the threaded shaft and a threaded clamping means (48), wherein the threaded shaft and the bone anchoring element include a spherical articulation between the elements allowing multiple orientations of the elements relative to one another. Bernhardt fails to disclose the device further comprising a rotational linkage means between the bone anchor and the threaded shaft. Altarac teaches a device comprising a bone anchor (12') having a socket with a concave shape, a threaded shaft (20) having a ball with a convex shape, a spherical articulation between the bone anchor and the threaded shaft, and a

rotational linkage means (70, 72, and 74) located between the bone anchoring element and the threaded shaft separate from the spherical articulation comprising a male component (74) made from the bone anchoring element having a non-circular transverse cross-section at a transverse end face and a female component (70) for receiving the male component at the transverse end face in order to rotationally lock the elements relative to each other during installation of the device (column 2 paragraph 21). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the device of Bernhardt further comprising a rotational linkage in view of Altarac in order to rotationally lock the elements relative to each other during installation of the device.

#### ***Response to Arguments***

6. Applicant's arguments filed June 12<sup>th</sup>, 2009 have been fully considered but they are not persuasive. The applicant's argument that the Mullane reference does not disclose a spherical articulation between the bone anchoring element and the threaded shaft is not persuasive. The applicant argues that the rotational locking means, i.e. the pegs and the slots, prevents 3-axis rotation and therefore does not disclose spherical articulation. The examiner does agree with the applicant. The end of the threaded shaft is a spherical ball that moves along a semi-spherical cavity as shown in Figures 2 and 4, which means the threaded shaft moved along a spherical path, i.e. spherical rotation. The claims do not require the rotation to be free moving rotation in all axes. The claims only require spherical rotation, which the reference clearly discloses that the threaded shaft rotates along a spherical path about two axes. The applicant's argument that the

tabs have a circular cross-section is partially correct. In one view the pegs, i.e. a view offset 90 degrees from Figure 4, the pegs may have a circular cross-section. However, in the view shown in Figures 4, the pegs have a rectangular cross-section. The claims do not limit which cross-section may not be circular. Therefore, the reference discloses the limitations of the claims as presented. The applicant's argument that the Mullane reference does not disclose the rotational linkage means being located outside the spherical articulation is not persuasive. First, the examiner would like to note that the female form (11) of the applicant's invention is clearly integral to the ball portion, i.e. a portion of the spherical articulation, of the invention. The applicant argues that the tabs and slots are part of the spherical articulation parts and are therefore not outside the spherical articulation. The examiner believes that this argument is not persuasive because the applicant's female form is also part of the spherical articulation, i.e. is an integral portion of the ball portion of the invention as shown in Figure 2 of the current application. Therefore, the rotational linkage may be a part of the spherical articulation based on the applicant's own disclosure. The claims do not require that the rotational linkage means can not be formed on the articulation surfaces of the element, but that the rotational linkage means are separate elements from the spherical articulation. The Mullane reference shown the tabs as distinct elements extending from the spherical surface of the ball and the slots extending from the spherical surface of the cavity, and disclose the limitations of the claims as presented. The applicant's argument that the Altarac reference does not disclose elements that can be interpreted as a rotational linkage means is not persuasive. A rotational linkage means needs to be a structure

capable of transmitting any rotational movement from one element to another. The Altarac reference discloses a device as discussed above, wherein the examiner is interpreting elements 70, 72, and 74 as the rotational linkage means. If the screw assembly shown in Figure 5 of the reference were placed on a table, elements 70, 72, and 74 are capable of transmitting rotational movement of element 20 to element 12' when element 20 is completely pushed in a direction such that an edge of element 70 engages an edge of element 74 and further rotational movement of element 20 would also cause rotational movement of element 12'. Therefore, elements are capable of transmitting rotational movement between elements 20 and 12 and are therefore capable of being interpreted as rotational linkage means.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas Woodall whose telephone number is (571)272-5204. The examiner can normally be reached on Monday to Friday 8:00 to 5:30 EST..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Barrett can be reached on 571-272-4746. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nicholas Woodall/  
Examiner, Art Unit 3775

/Thomas C. Barrett/  
Supervisory Patent Examiner, Art  
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